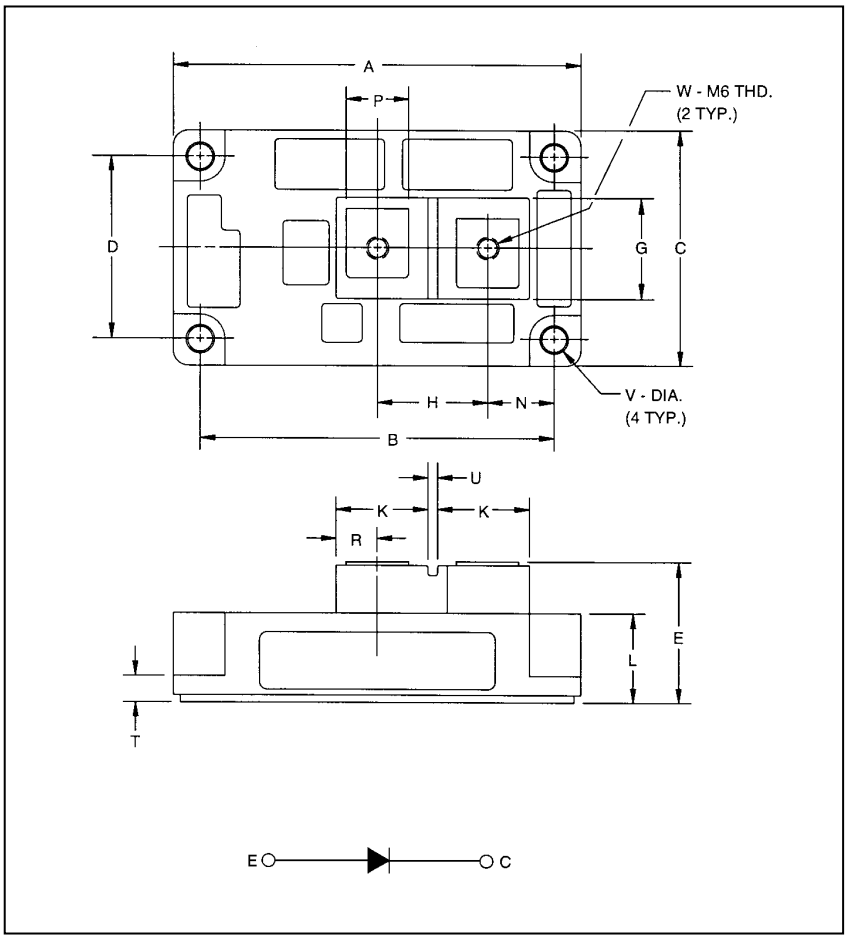
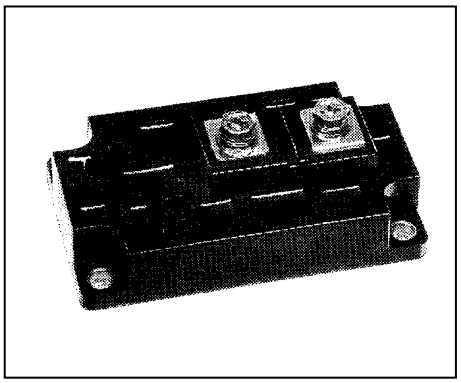
Powerex, Inc., 173 Pavilion Lane, Youngwood 15697 (724) 925-7272
www.pwrx.com

1700 Volts Fast Recovery Diode Module
1200 Amps Free Wheeling
700 Amps Average





Dim	Inches	Millimeters
A	4.21	107.0
B	3.661±0.01	93.0±0.25
C	2.44	62.0
D	1.89±0.01	48.0±0.25
E	1.42 Max.	36.0 Max.
G	1.18	30.0
H	1.14	29.0
K	0.94	24.0

Dim	Inches	Millimeters
L	0.93	23.5
N	0.69	17.5
P	0.63	16.0
R	0.43	11.0
T	0.28	7.0
U	0.12	3.0
V	0.26 Dia.	6.5 Dia.
W	M6 Metric	M6

Description:
Powerex Single Fast Recovery Diode Module features fast switching is specially designed for customer applications. The modules are isolated for easy mounting with other components on a common heatsink.

Features:
- Fast Recovery Time
- Isolated Mounting
- Copper Baseplate
- Low Thermal Impedance
- 3000 V Isolating Voltage

Applications:
- Switching Power Supplies
- Inverters
- Choppers
- Welding Power Supplies
- Free Wheeling Diode
- High Frequency Rectifiers

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Absolute Maximum Ratings, T_J=25°C unless otherwise specified

Characteristics	Conditions	Symbol	QRS171D001	Units
Repetitive Peak Reverse Blocking Voltage	-	V_{RRM}	1700	Volts
Non-Repetitive Peak Reverse Blocking Voltage	-	V_{RSM}	V_{RRM} + 100	Volts
Average Forward Current	Resistive Load, Tc=80°C	$I_{F(AV)}$	700	Amperes
Peak Half Cycle Non-Repetitive Surge Current*	t = 8.3mS, 100%V_{RRM} Reapplied	I_{FSM}	2400	Amperes
I^2t for Fusing for One Cycle	t = 8.3mS, 100%V_{RRM} Reapplied	I^2t	24000	A^2sec
Operating Junction Temperature	-	T_J	-40 to 150	°C
Storage Temperature	-	T_{STG}	-40 to 125	°C
Maximum Mounting Torque, M6 Mounting Screw	-	-	26	In.-lb.
Maximum Terminal Torque, M6 Terminal Screw	-	-	26	In.-lb.
Module Weight (Typical)	-	-	400	Grams
V Isolation	60 Hz, circuit to base, all terminals shorted, t = 1 sec	V_{RMS}	3000	Volts

* Pulse width and repetition rate should be such that the device junction temperature (Tj) doesn't exceed Tj(max) ratings

Electrical Characteristics, T_J=25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max	Units
Peak Reverse Leakage Current	I_{RRM}	Rated V_{RRM}	-	-	5	mA
Peak On-State Voltage*	V_{FM}	I_F=1200A	-	2.4	3.1	Volts
		I_F=700A		2.0	2.5	
Reverse Recovery Time	trr	I_F = 1200A, di/dt = –2400A/µs	-	-	2.0	µs
Reverse Recovery Charge	Qrr	I_F = 1200A, di/dt = –2400A/µs	-	200	-	µC

* Pulse width and repetition rate should be such that the device junction temperature (Tj) doesn't exceed Tj(max) ratings

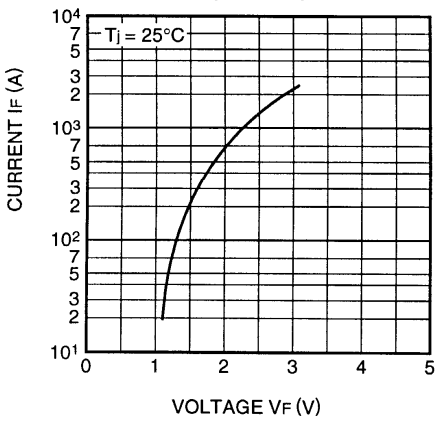
Thermal Characteristics, T_J=25°C unless otherwise specified

Characteristics	Symbol		Min.	Typ.	Max.	Units
Thermal Resistance, Junction to Case	$R_{\Theta JC}$	Per Diode	-	-	0.04	°C/Watt
Contact Thermal Resistance	$R_{\Theta CS}$	Per Module, Thermal Grease Applied	-	-	0.04	°C/Watt

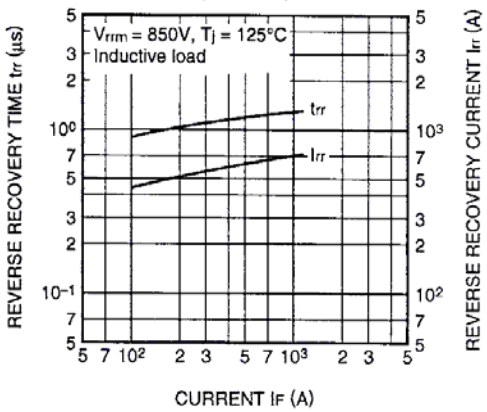
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FORWARD CHARACTERISTICS (TYPICAL)



REVERSE RECOVERY CHARACTERISTICS (TYPICAL)



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS

